

IN THE CLAIMS:

This listing of the claims replaces all prior versions and listings of the claims in this application.

The text of all pending claims (including any withdrawn claims) is set forth below. Canceled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New), and (Not entered).

Please CANCEL claims 42, 47, and 52 without prejudice or disclaimer and ADD new claims 53-55 in accordance with the following:

1. (Previously presented) An information storage medium for use with a recording and/or reproducing apparatus, the information storage medium comprising:
 - a user data area comprising a plurality of user data frames, each of the user data frames comprising corresponding sync data of a plurality of sync data; and
 - an additional data area located before and/or after the user data area, and comprising at least two additional data frames, a first one of the additional data frames comprising first sync data, and a second one of the additional data frames comprising second sync data, the first sync data and the second sync data being different from the plurality of sync data of the user data frames, the first sync data and the second sync data enabling the apparatus to identify the additional data area from the user data area when the information storage medium is used with the apparatus;
- wherein:
 - the first sync data comprises a first sync body and a first sync identification,
 - the second sync data comprises a second sync body and a second sync identification,
 - the first sync identification is different from the second sync identification,
 - the information storage medium is a read-only information storage medium, and
 - the additional data area makes the read-only information storage medium compatible with a recordable information storage medium.

2. (Previously presented) The information storage medium of claim 1, wherein the plurality of sync data of the user data frames, the first sync data, and/or the second sync data are disposed in a plurality of locations, and are arranged so that adjacent ones of the plurality of sync data of the user data frames, the first sync data, and/or the second sync data are separated by equal intervals.

3. (Previously presented) The information storage medium of claim 2, wherein the first sync data and/or the second sync data are arranged in a plurality of locations in the additional data area so that a size of each of the user data frames of the user data area separated by the plurality of sync data of the user data frames is equal to a size of each of the at least two additional data frames of the additional data area separated by the first sync data and/or the second sync data.

4. (Previously presented) The information storage medium of claim 3, wherein:
each of the plurality of sync data of the user data frames comprises a sync body and a sync identification, and

each of the sync identification of each of the plurality of sync data of the user data frames, the first sync identification, and the second sync identification satisfies a run-length limited (RLL) (d, k) code having a minimum constraint of d and a maximum constraint of k.

5. (Previously presented) The information storage medium of claim 3, wherein:
the plurality of sync data of the user data frames are arranged in a plurality of locations in the user data area, and

a total size of the at least two additional data frames of the additional data area is an integer multiple of a size of each of the user data frames of the user data area separated by the plurality of sync data of the user data frames.

6. (Previously presented) The information storage medium of claim 2, wherein the plurality of sync data of the user data frames are arranged in a plurality of locations in the user data area, and

a total size of the at least two additional data frames of the additional data area is an integer multiple of a size of each of the user data frames of the user data area separated by the plurality of sync data of the user data frames.

7. (Previously presented) The information storage medium of claim 6, wherein:
each of the plurality of sync data of the user data frames comprises a sync body and a sync identification, and

each of the sync identification of each of the plurality of sync data of the user data frames, the first sync identification, and the second sync identification satisfies a run-length limited (RLL) (d, k) code having a minimum constraint of d and a maximum constraint of k.

8. (Previously presented) The information storage medium of claim 2, wherein:
each of the plurality of sync data of the user data frames comprises a sync body and a sync identification, and

each of the sync identification of each of the plurality of sync data of the user data frames, the first sync identification, and the second sync identification satisfies a run-length limited (RLL) (d, k) code having a minimum constraint of d and a maximum constraint of k.

9. (Previously presented) The information storage medium of claim 1, wherein the first sync data and/or the second sync data are arranged in a plurality of locations in the additional data area so that a size of each of the user data frames of the user data area separated by the plurality of sync data of the user data frames is equal to a size of each of the at least two additional data frames of the additional data area separated by the first sync data and/or the second sync data.

10. (Previously presented) The information storage medium of claim 1, wherein the plurality of sync data of the user data frames are disposed in a plurality of locations in the user data area, and

a total size of the at least two additional data frames of the additional data area is an integer multiple of a size of each of the user data frames of the user data area separated by the plurality of sync data of the user data frames.

11. (Previously presented) The information storage medium of claim 1, wherein:
each of the plurality of sync data of the user data frames comprises a sync body and a sync identification, and
each of the sync identification of each of the plurality of sync data of the user data frames, the first sync identification, and the second sync identification satisfies a run-length limited (RLL) (d, k) code having a minimum constraint of d and a maximum constraint of k.

12–26. (Canceled)

27. (Previously presented) A recording and/or reproducing apparatus for use with an information storage medium, the information storage medium comprising a user data area comprising a plurality of user data frames, each of the user data frames comprising corresponding data of a plurality of sync data, the information storage medium further comprising an additional data area located before and/or after the user data area, the additional data area comprising at least two additional data frames, a first one of the additional data frames comprising first sync data, and a second one of the additional data frames comprising second sync data, the first sync data and the second sync data being different from the plurality of sync data of the user data frames, the first sync data and the second sync data enabling the apparatus to identify the additional data area from the user data area when the information storage medium is used with the apparatus, the apparatus comprising:

a recording and/or reproducing unit to optically transfer user data and/or additional data between the apparatus and the information storage medium; and

a controller to control the recording and/or reproducing unit to transfer the user data with respect to the user data area, and to transfer the additional data with respect to the additional data area;

wherein:

the first sync data comprises a first sync body and a first sync identification, and
the second sync data comprises a second sync body and a second sync identification,
the first sync identification is different from the second sync identification,
the information storage medium is a read-only information storage medium, and

the additional data area makes the read-only information storage medium compatible with a recordable information storage medium.

28. (Previously presented) The recording and/or reproducing apparatus of claim 27, wherein:

the controller controls the recording and/or reproducing unit to determine the user data area of the information storage medium,

the plurality of sync data of the user data frames are disposed in a plurality of locations in the user data area so as to define a size of each of the user data frames of the user data area separated by the plurality of sync data of the user data frames,

the first sync data and/or the second sync data are disposed in a plurality of locations in the additional data area so as to define a size of each of the at least two additional data frames of the additional data area separated by the first sync data and/or the second sync data, and

the size of each of the user data frames of the user data area is equal to the size of each of the at least two additional data frames of the additional data area.

29. (Previously presented) The recording and/or reproducing apparatus of claim 27, wherein the controller further controls the recording and/or reproducing unit to:

determine another user data area comprising a plurality of user data frames, each of the user data frames comprising corresponding data of a plurality of sync data, so that the additional data area is disposed between the user data area and the other user data area, and

transfer the user data with respect to the other user data area.

30. (Previously presented) The recording and/or reproducing apparatus of claim 27, wherein:

each of the plurality of sync data of the user data frames comprises a sync body and a sync identification;

the sync identification of each of the plurality of sync data of the user data frames satisfies a run-length limited (RLL) (d, k) code having a minimum constraint of d and a maximum constraint of k, and

the controller detects the sync identification of each of the plurality of sync data of the user data frames.

31. (Previously presented) The recording and/or reproducing apparatus of claim 30, wherein:

each of the first sync identification and the second sync identification satisfies a run-length limited (RLL) (d, k) code having a minimum constraint of d and a maximum constraint of k, and

the controller detects the first sync identification and the second sync identification.

32–35. (Canceled)

36. (Previously presented) The information storage medium of claim 11, wherein each of the sync body of each of the plurality of sync data of the user data frames, the first sync body, and the second sync body does not satisfy the run-length limited (RLL) (d, k) code having the minimum constraint of d and the maximum constraint of k.

37. (Previously presented) The recording and/or reproducing apparatus of claim 31, wherein each of the sync body of each of the plurality of sync data of the user data frames, the first sync body, and the second sync body does not satisfy the run-length limited (RLL) (d, k) code having the minimum constraint of d and the maximum constraint of k.

38. (Previously presented) An information storage medium for use with a recording and/or reproducing apparatus, the information storage medium comprising:

an additional data area comprising:

a first additional data frame comprising first sync data; and

a second additional data frame comprising second sync data; and

a data area comprising a data frame comprising third sync data;

wherein:

the first sync data is different from the second sync data;

the third sync data is different from the first sync data and the second sync data to enable the apparatus to identify the additional data area from the data area when the information storage medium is used with the apparatus;

a size of the additional data area is an integer multiple of a size of the data frame;
and
the additional data area provides compatibility among information storage media having different formats for use with the apparatus.

39. (Previously presented) An information storage medium for use with a recording and/or reproducing apparatus, the information storage medium comprising:

an additional data area comprising:

a first additional data frame comprising first sync data; and

a second additional data frame comprising second sync data; and

a data area comprising a data frame comprising third sync data;

wherein:

the first sync data is different from the second sync data;

the third sync data is different from the first sync data and the second sync data to enable the apparatus to identify the additional data area from the data area when the information storage medium is used with the apparatus;

a size of the first additional data frame is equal to a size of the data frame; and

the additional data area provides compatibility among information storage media having different formats for use with the apparatus.

40. (Previously presented) An information storage medium for use with a recording and/or reproducing apparatus, the information storage medium comprising:

an additional data area comprising:

a first additional data frame comprising first sync data; and

a second additional data frame comprising second sync data; and

a data area comprising a data frame comprising third sync data;

wherein:

the first sync data is different from the second sync data;

the third sync data is different from the first sync data and the second sync data to enable the apparatus to identify the additional data area from the data area when the information storage medium is used with the apparatus;

each of the first sync data and the second sync data comprises a sync identification and a sync body;

the sync identification of the first sync data is different from the sync identification of the second sync data; and

the additional data area provides compatibility among information storage media having different formats for use with the apparatus.

41. (Previously presented) An information storage medium for use with a recording and/or reproducing apparatus, the information storage medium comprising:

an additional data area comprising:

a first additional data frame comprising first sync data; and

a second additional data frame comprising second sync data; and

a data area comprising a plurality of data frames, each of the data frames comprising corresponding sync data of a plurality of sync data;

wherein:

the first sync data is different from the second sync data;

the plurality of sync data of the data frames is different from the first sync data and the second sync data to enable the apparatus to identify the additional data area from the data area when the information storage medium is used with the apparatus;

each of the first sync data and the second sync data comprises a sync identification and a sync body;

the sync identification of the first sync data is different from the sync identification of the second sync data; and

the additional data area provides compatibility among information storage media having different formats for use with the apparatus.

42. (Canceled)

43. (Previously presented) A reproducing apparatus for use with an information storage medium, the information storage medium comprising an additional data area comprising a first additional data frame comprising first sync data, and a second additional data frame comprising second sync data; the information storage medium further comprising a data area comprising a

data frame comprising third sync data; wherein the first sync data is different from the second sync data; the third sync data is different from the first sync data and the second sync data to enable the apparatus to identify the additional data area from the data area when the information storage medium is used with the apparatus; and a size of the additional data area is an integer multiple of a size of the data frame; the apparatus comprising:

- a pickup to emit light onto the information storage medium; and

- a controller to control the pickup to reproduce data recorded in the data area;

wherein the additional data area provides compatibility among information storage media having different formats for use with the apparatus.

44. (Previously presented) A reproducing apparatus for use with an information storage medium, the information storage medium comprising an additional data area comprising a first additional data frame comprising first sync data, and a second additional data frame comprising second sync data; the information storage medium further comprising a data area comprising a data frame comprising third sync data; wherein the first sync data is different from the second sync data; the third sync data is different from the first sync data and the second sync data to enable the apparatus to identify the additional data area from the data area when the information storage medium is used with the apparatus; and a size of the first additional data frame is equal to a size of the data frame; the apparatus comprising:

- a pickup to emit light onto the information storage medium; and

- a controller to control the pickup to reproduce data recorded in the data area;

wherein the additional data area provides compatibility among information storage media having different formats for use with the apparatus.

45. (Previously presented) A reproducing apparatus for use with an information storage medium, the information storage medium comprising an additional data area comprising a first additional data frame comprising first sync data, and a second additional data frame comprising second sync data; the information storage medium further comprising a data area comprising a data frame comprising third sync data; wherein the first sync data is different from the second sync data; the third sync data is different from the first sync data and the second sync data to enable the apparatus to identify the additional data area from the data area when the information storage medium is used with the apparatus; each of the first sync data and the second sync data

comprises a sync identification and a sync body; and the sync identification of the first sync data is different from the sync identification of the second sync data; the apparatus comprising:

- a pickup to emit light onto the information storage medium; and

- a controller to control the pickup to reproduce data recorded in the data area;

wherein the additional data area provides compatibility among information storage media having different formats for use with the apparatus.

46. (Previously presented) A reproducing apparatus for use with an information storage medium, the information storage medium comprising an additional data area comprising a first additional data frame comprising first sync data, and a second additional data frame comprising second sync data; the information storage medium further comprising a data area comprising a plurality of data frames, each of the data frames comprising corresponding sync data of a plurality of sync data; wherein the first sync data is different from the second sync data; the plurality of sync data of the data frames is different from the first sync data and the second sync data to enable the apparatus to identify the additional data area from the data area when the information storage medium is used with the apparatus; each of the first sync data and the second sync data comprises a sync identification and a sync body; and the sync identification of the first sync data is different from the sync identification of the second sync data; the apparatus comprising:

- a pickup to emit light onto the information storage medium; and

- a controller to control the pickup to reproduce data recorded in the data area;

wherein the additional data area provides compatibility among information storage media having different formats for use with the apparatus.

47. (Canceled)

48. (Previously presented) A method of reproducing information from an information storage medium, the information storage medium comprising an additional data area comprising a first additional data frame comprising first sync data, and a second additional data frame comprising second sync data; the information storage medium further comprising a data area comprising a data frame comprising third sync data; wherein the first sync data is different from the second sync data; the third sync data is different from the first sync data and the second

sync data to enable the additional data area to be identified from the data area; and a size of the additional data area is an integer multiple of a size of the data frame; the method comprising:

reproducing the first sync data and/or the second sync data; and

reproducing data recorded in the data area;

wherein the additional data area provides compatibility among information storage media having different formats.

49. (Previously presented) A method of reproducing information from an information storage medium, the information storage medium comprising an additional data area comprising a first additional data frame comprising first sync data, and a second additional data frame comprising second sync data; the information storage medium further comprising a data area comprising a data frame comprising third sync data; wherein the first sync data is different from the second sync data; the third sync data is different from the first sync data and the second sync data to enable the additional data area to be identified from the data area; and a size of the first additional data frame is equal to a size of the data frame; the method comprising:

reproducing the first sync data and/or the second sync data; and

reproducing data recorded in the data area;

wherein the additional data area provides compatibility among information storage media having different formats.

50. (Previously presented) A method of reproducing information from an information storage medium, the information storage medium comprising an additional data area comprising a first additional data frame comprising first sync data, and a second additional data frame comprising second sync data; the information storage medium further comprising a data area comprising a data frame comprising third sync data; wherein the first sync data is different from the second sync data; the third sync data is different from the first sync data and the second sync data to enable the additional data area to be identified from the data area; each of the first sync data and the second sync data comprises a sync identification and a sync body; and the sync identification of the first sync data is different from the sync identification of the second sync data; the method comprising:

reproducing the first sync data and/or the second sync data; and

reproducing data recorded in the data area;

wherein the additional data area provides compatibility among information storage media having different formats.

51. (Previously presented) A method of reproducing information from an information storage medium, the information storage medium comprising an additional data area comprising a first additional data frame comprising first sync data, and a second additional data frame comprising second sync data; the information storage medium further comprising a data area comprising a plurality of data frames, each of the data frames comprising corresponding sync data of a plurality of sync data; wherein the first sync data is different from the second sync data to enable the additional data area to be identified from the data area; the plurality of sync data of the data frames is different from the first sync data and the second sync data; each of the first sync data and the second sync data comprises a sync identification and a sync body; and the sync identification of the first sync data is different from the sync identification of the second sync data; the method comprising:

reproducing the first sync data and/or the second sync data; and

reproducing data recorded in the data area;

wherein the additional data area provides compatibility among information storage media having different formats.

52. (Canceled)

53. (New) The information storage medium of claim 1, wherein the first sync data, the second sync data, and the plurality of sync data of the user data frames enable the apparatus to identify the additional data area from the user data area when the information storage medium is used with the apparatus without detecting any combination of any of the first sync data, the second sync data, and the plurality of sync data of the user data frames.

54. (New) The recording and/or reproducing apparatus of claim 27, wherein the first sync data, the second sync data, and the plurality of sync data of the user data frames enable the apparatus to identify the additional data area from the user data area when the information storage medium is used with the apparatus without detecting any combination of any of the first sync data, the second sync data, and the plurality of sync data of the user data frames.

55. (New) The information storage medium of claim 38, wherein the first sync data, the second sync data, and the third sync data enable the apparatus to identify the additional data area from the data area when the information storage medium is used with the apparatus without detecting any combination of any of the first sync data, the second sync data, and the third sync data.